750W Outdoor TWT Amplifier

for Satellite Communications

The VZC-6967V7

750 Watt TWT Medium
Power Amplifier
— high efficiency in an
environmentally sealed
compact package
designed for outdoor
operation



Plays in the Rain

Provides 750 watts of power in a rugged and compact weatherproof package, digital ready, for wideband, single- and multi-carrier satellite service in the 5.85 - 6.65 GHz frequency band. Ideal for transportable and fixed earth station applications.

Cost Effective and Efficient

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs.

Reliable

Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance.

Easy to Maintain

Modular design and built-in fault diagnostic capability via remote monitor and control.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over three decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes sixteen regional factory service centers.



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OPTIONS:

• Integral Linearizer

· Remote Control Panel

• Redundant and Power

• Extended Frequencies

Model Number

(5.850 to 7.100 GHz:

VZC-6967VE; 5.850

to 6.725 GHz: Model

Model VZC-6967VA:

5.725 to 6.650 GHz.)

• External Receive Band

by a minimum of 70 dB

up to 4.8 GHz)

Reject Filter (increases loss

Number VZC-6967VB;

Combined Subsystems

SPECIFICATIONS, VZC-6967V7

Electrical

Frequency

Output Power

TWT Flange

Bandwidth 800 MHz Gain 70 dB min. at rated power

75 dB min. at small signal RF Level Adjust Range 20 dB min. (via PIN diode attenuator)

5.850-6.650 GHz

750 W min.

650 W min.

Gain Stability

±0.25 dB/24 hrs. max. At constant drive & temp. (after 30 min. warmup)

Over temp., constant drive, ±1.0 dB over oper. temp. range (any frequency) ± 0.75 dB over $\pm 10^{\circ}$ C

Small Signal Gain Slope ±0.02 dB/MHz max.

Small Signal Gain Variation Across any 40 MHz band 0.5 dB pk-pk max. Across the 800 MHz band 2.5 dB pk-pk max.

Input VSWR 1.3:1 max Output VSWR 1.3:1 max.

Load VSWR

Continuous operation 2.0:1 Full spec compliance 1.5:1 Any value Operation without damage

Residual AM, max -50 dBc below 10 kHz

-20 (1.5 + log F kHz) dBc, 10 kHz to 500 kHz -85 dBc above 500 kHz

Phase Noise

IESS-308/309 12 dB below mask

phase noise continuous

AC fundamentals related -36 dBc Sum of spurs (370 Hz to 1 MHz) -47 dBc

AM/PM Conversion 2.5°/dB max. for a single-carrier at 8 dB below rated power

(at 3 dB backoff with optional linearizer)

Harmonic Output -60 dBc at rated power,

second and third harmonics

Noise and Spurious <-150 dBW/4 kHz, 3.4 to 4.2 GHz <-65 dBW/4 kHz, 4.2 to 12.0 GHz

(<-60 dBW/4 kHz w/ optional linearizer) <-110 dBW/4 kHz. 12.0 to 40.0 GHz

-24 dBc max. with two equal carriers Intermodulation

at total output power 7 dB (3 dB with optional integral linearizer) below rated

single-carrier output

Electrical (continued)

Group Delay

0.01 ns/MHz linear max. (in any 40 MHz band) 0.001 ns/MHz sq. parabolic max.

0.5 ns pk-pk ripple max.

Primary Power

Voltage Frequency Single phase, 200-240 VAC ±10%

47-63 Hz

Power Consumption 2.3 kVA typ.

(at saturated RF output power)

2.6 kVA max.

Power Factor 95 min. Inrush Current 200% max.

Environmental

Ambient Temperature -40° to + 55°C operating, including solar loading

(+60°C optional);

-40° to + 75°C non-operating

Relative Humidity 100% condensing

10,000 ft. with standard adiabatic Altitude derating of 2°C/1000 ft., operating;

50,000 ft. non-operating

Shock and Vibration Designed for normal transportation

> environment per Section 514.4 MIL-STD-810E. Designed to withstand 20G at 11 ms (1/2 sine pulse) in non-operating condition.

Acquistic Noise 68 dBA (as measured at 3 ft.)

Mechanical

Cooling Forced air w/ integral blower.

RF Output Connection CPR-137 waveguide flange,

grooved, threaded UNF 2B 10-32

RF Output Monitor Type N female

Dimensions (WxHxD) 14.5 x 13.1 x 24 in.

(368 x 333 x 610)

Weight 87 lbs (39.5 kg) max.

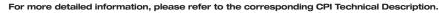
Heat Dissipation

Into Hub 200 W 2000 W Ducted









Note: Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design



Communications & Power Industries